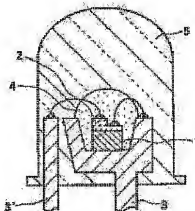


NITRATE SEMICONDUCTOR LIGHT EMITTING DIODE**Publication number:** JP8335720 (A)**Publication date:** 1996-12-17**Inventor(s):** UMEMOTO HITOSHI; YAMADA TAKAO; NAKAMURA SHUJI**Applicant(s):** NICHIA KAGAKU KOGYO KK**Classification:****- International:** H01L23/29; H01L23/18; H01L23/31; H01L33/00; H01L23/16; H01L23/28; H01L33/00; (IPC1-7): H01L33/00; H01L23/18; H01L23/29; H01L23/31**- European:****Application number:** JP19950140966 19950608**Priority number(s):** JP19950140966 19950608**Abstract of JP 8335720 (A)**

PURPOSE: To prevent the exfoliation of electrodes and the breaking of wires of a light emitting chip by surrounding directly the light emitting chip, in which the anode and cathode are provided on the same surface side, with resin of JIS-A hardness 30 or less or sealing material of gel or liquid type.

CONSTITUTION: The nitrate semiconductor layer 2 of a double hetero-structure is deposited on a sapphire substrate 1 by an MOCVD method. Many light emitting chips, in which the anodes and the cathodes are formed on the same surface side of the nitrate semiconductor layer 2, are provided. Transparent silicone resin 4 (specific gravity is 1.10) is injected into the inside of the cup of a lead frame 3 by the dispenser of a molding device. After immersing lead frames 3 and 3' inside a molding die into which epoxy resin 5 (specific gravity is 1.80) is injected in advance, the resin is cured after removing the die and the LED of an artillery shell shape is made. When it is surrounded by such a material, the electrode do not exfoliate and the reliability is improved.



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